

What is claimed is:

1. A call admission control method in an ATM switch, comprising the steps of:

5 a) receiving a QoS (Quality of Service) specified connection request;

b) calculating an assigned bandwidth on a link, associated with the QoS-specified connection request;

c) calculating an estimated bandwidth to be assigned to an existing QoS-unspecified traffic on the link  
10 associated with the QoS-specified connection request; and

d) determining whether the QoS-specified connection request is accepted, based on a combination of the assigned bandwidth and the estimated bandwidth.

2. The call admission control method according to  
15 claim 1, wherein in the step (c), the estimated bandwidth on the link is obtained based on an average QoS-unspecified traffic of each QoS-unspecified virtual connection existing on the link associated with the QoS-specified connection request.

20 3. The call admission control method according to claim 2, wherein the average QoS-unspecified traffic is calculated by adding up existing QoS-unspecified traffics obtained at predetermined sampling time intervals.

4. The call admission control method according to claim 1, wherein the step (c) comprises the steps of:

c.1) adding up existing QoS-unspecified traffics obtained at predetermined sampling time intervals to produce a first average QoS-unspecified traffic;

c.2) sequentially storing a first average QoS-unspecified traffic each time a corresponding QoS-unspecified connection is established at the ATM switch; and

c.3) calculating the estimated bandwidth by averaging a predetermined number of first average QoS-unspecified traffics stored.

5. The call admission control method according to claim 1, wherein the step (d) comprises the steps of:

d.1) adding the assigned bandwidth and the estimated bandwidth to produce an currently assigned bandwidth in the link;

d.2) calculating an available bandwidth of the link by subtracting the currently assigned bandwidth from a full bandwidth of the link; and

d.3) determining whether the QoS-specified connection request is accepted, depending on a comparison of the available bandwidth and a requested bandwidth of the QoS-specified connection request.

6. A call admission control system in an ATM switch

having a plurality of links connected thereto, comprising:

a traffic monitor for monitoring a QoS-unspecified traffic for each QoS-unspecified connection existing on each link;

5 a memory for storing a cell traffic management table containing an average QoS-unspecified traffic for each QoS-unspecified connection existing on each link; and

10 a call admission manager for calculating an estimated bandwidth by adding up average QoS-unspecified traffics for all existing QoS-unspecified connections on a link associated with a QoS-specified connection request, wherein the estimated bandwidth is a bandwidth to be assigned to the existing QoS-unspecified connections on the link, and determining whether the QoS-specified connection request is 15 accepted, based on a combination of the estimated bandwidth and an assigned bandwidth that is already assigned in the link.

7. The call admission control system according to claim 6, wherein an average QoS-unspecified traffic is 20 calculated by adding up existing QoS-unspecified traffics obtained at predetermined sampling time intervals.

8. The call admission control method according to claim 6, wherein the call admission manager adds the assigned bandwidth and the estimated bandwidth to produce an 25 currently assigned bandwidth in the link, calculates an

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available bandwidth of the link by subtracting the currently assigned bandwidth from a full bandwidth of the link, and determines whether the QoS-specified connection request is accepted, depending on a comparison of the available 5 bandwidth and a requested bandwidth of the QoS-specified connection request.

9. A call admission control system in an ATM switch having a plurality of links connected thereto, comprising:

10 a traffic monitor for monitoring a QoS-  
unspecified traffic for each QoS-unspecified connection  
existing on each link;

15 a calculator for adding up existing QoS-  
unspecified traffics obtained at predetermined sampling  
time intervals to produce a first average QoS-unspecified  
traffic, and calculating the estimated bandwidth by  
averaging a predetermined number of first average QoS-  
unspecified traffics stored;

20 a memory for storing a cell traffic management  
database sequentially containing a first average QoS-  
unspecified traffic each time a QoS-unspecified connection  
is established at the ATM switch; and

25 a call admission manager for calculating an  
estimated bandwidth by adding up first average QoS-  
unspecified traffics for all existing QoS-unspecified  
connections on a link associated with a QoS-specified  
connection request, wherein the estimated bandwidth is a

bandwidth to be assigned to the existing QoS-unspecified connections on the link, and determining whether the QoS-specified connection request is accepted, based on a combination of the estimated bandwidth and an assigned 5 bandwidth that is already assigned in the link.

10. The call admission control method according to claim 9, wherein the call admission manager adds the assigned bandwidth and the estimated bandwidth to produce an currently assigned bandwidth in the link, calculates an 10 available bandwidth of the link by subtracting the currently assigned bandwidth from a full bandwidth of the link, and determines whether the QoS-specified connection request is accepted, depending on a comparison of the available bandwidth and a requested bandwidth of the QoS-specified 15 connection request.

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